

WHAT WE CLAIM IS :

1. A method for performing a parking assist control for automatically guiding a vehicle to a target parking position, comprising the steps of:  
calculating a change of a vehicle direction based on a traveling distance of the vehicle and a steering angle obtained by a steering angle sensor;  
calculating the change of the vehicle direction based on a yaw rate obtained by a yaw rate sensor; and  
determining whether or not the parking assist control is required to be stopped based on a result of a comparison between the calculated changes of the vehicle direction.
2. A method for performing a parking assist control according to claim 1, wherein the step of calculating the change of the vehicle direction based on the traveling distance of the vehicle and the steering angle obtained by the steering angle sensor, and the step of calculating the change of the vehicle direction based on the yaw rate obtained by the yaw rate sensor are performed at the same time.
3. A parking assist apparatus for performing a parking assist control for automatically guiding a vehicle to a target parking position, comprising:  
a traveling distance calculating means for calculating a traveling distance of a vehicle during an implementation of the parking assist control;  
a first calculating means for calculating a change of a vehicle direction occurring within the traveling distance based on the traveling distance and a steering angle obtained by a steering angle sensor;

a second calculating means for calculating the change of the vehicle direction occurring within the traveling distance based on a yaw rate obtained by a raw rate sensor; and

a determining means for comparing calculated results obtained by the first calculating means and the second calculated means and determining whether or not the parking assist control is required to be stopped based on a result of a comparison between the calculated results.

4. A vehicle assist apparatus according to claim 3, wherein the determining means compares the calculated results of the first calculating means and the second calculated means which are calculated at the same time.

5. A parking assist apparatus according to claim 3, wherein when a difference between the change of the vehicle direction calculated by the first calculating means and the change of the vehicle direction calculated by the second calculating means is greater than a predetermined threshold value, the parking assist control is stopped.

6. A parking assist apparatus according to claim 3, wherein the first calculating means calculates a deflection angle  $\theta_h$  based on the speed sensor and the steering angle sensor.

7. A parking assist apparatus according to claim 7, wherein the second calculating means calculates a deflection angle  $\theta_y$  based on the yaw rate sensor.

8. A parking assist apparatus according to claim 8, wherein the determining means determines that one of the yaw rate sensor and the steering angle sensor is fault when a difference between the deflection angles  $\theta_h$  and  $\theta_y$  is greater than the predetermined threshold value.

9. A parking assist apparatus for performing a parking assist control for guiding a vehicle to a target parking position, comprising:  
a traveling distance calculating means for calculating a traveling distance of a vehicle during an implementation of the parking assist control;  
a first calculating means for calculating a change of a vehicle direction based on the traveling distance and a steering angle obtained by a steering angle sensor;  
a second calculating means for calculating the change of the vehicle direction based on a yaw rate obtained by a yaw rate sensor; and  
a determining means for comparing calculated results obtained by the first calculating means and the second calculated means and determining whether or not the parking assist control is stopped based on a result of a comparison between the calculated results.